# Navigation Economic Technologies Symposium
# Large Group Exercise

Question #1: What qualities and characteristics of current inland navigation economic evaluation techniques should we SAVE AND BUILD UPON over the next 10 years?

All answers in no particular order:

- Sensitivity Analysis Emphasis
- Identification of Critical Variables that can impact formulation
- Full origin-to-destination identification
- Rate (River & Rail)
- Transit Curves
- Optimization Techniques
- Engineering Reliability integrated with economics
- Data is good, should be improved
- Forecasting – multi. scenario – good – should be improved
- Engineering Reliability & Link to economics
- Waterways analysis model as a tool for transit tonnage and curves
- Network Development & use (waterway)
- Risk Analysis
- Equilibrium determination
- Spatial Detail (O-D, Community Triplets)
- Equilibrium (partial will do)
- Detailed engineering cost modeling
- Based in economics theory
- Scenarios
- Qualities & char
- Simulation capability
- Risk & Uncertainty
- G.U.I. interface
- User Manual
- Barge Rail & Truck estimation models (cost of exportation)
- Technical Review
- Information Sharing
- Synthesis of data
- Routing of traffic
- Queuing theory aspects
- Elasticity of demand in SEM
- Current techniques, tools, and procedures to estimate nav. Benefits
- WBC data & other data collected
- Current models

- Tow cost model (ORD set)
- Sweeny model (without E adjustment)
- Mobile model (by Moser)
- TVA data collection & "rate" analysis
- Rate Development
- NED focus
- Public Interaction
- The data used in current model should be preserved
- Origin – destination – community triplets
- Level of detail
- Network framework with individual locks
- Equilibrium
- Activity analysis to cost of shipping is better in this content than generic "cost functions"
- Spatial detail
- Data collection effort; also dissemination of all data for independent analysis
- Current effort to a systematic approach for cost-benefit analysis (to achieve consistency with the best available theory/methods)
- Rich data base
- Industry surveys
- Procedural guidance
- Site specific ????
- Based in economic theory
- Network analysis
- Simulation procedures
- Use of existing data from IWR data center
- Confirm to refine the elasticity element
- Use of routing
- WCSC port to port data collection
- LPMS data collection
- System analysis – links & nodes into flows before & after, before project baseline after project base line.
- Time benefit cost relationships
- Procedures well documented
- The data on origin – destination pair traffic by commodity for inland waterway O-D's
- The concept of next best alternative for shipping commodity
- The data on ultimate origin & destination
- Forecasting for scenarios with different characteristics
- Data intensive; sensitivity to fine geographic definitions of origins & destinations. Excellent quality of water data
- Demand response to price
- Real scenario analysis – including scenarios that look at changes in commodities (i.e. will we be making electricity with coal?)
- Non structural fixes – greater efficiency
- With existing infrastructure

- P&G
- The WAM and single lock simulation models
- TVA rate analysis needs to be saved, but analyzed and assessed for usefulness both for rates and long term stability of O.D's